



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,851	01/22/2004	David M. Heffelfinger	ANT-005	5875
3897	7590	05/06/2005		
SCHNECK & SCHNECK P.O. BOX 2-E SAN JOSE, CA 95109-0005			EXAMINER KOYAMA, KUMIKO C	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,851	<b>Applicant(s)</b> HEFFELFINGER ET AL.	
	<b>Examiner</b> Kumiko C. Koyama	<b>Art Unit</b> 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>091504,121704</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 13, 8-10, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolash et al (US 4,983,817).

Dolash discloses a bar code, which is fluorescent, is printed on a surface 2 as shown in Fig. 1 and Fig. 2 (col 4, lines 67+). As shown in the figures, the surface 2 is a substrate having a planar surface and the bar code 1 is printed on the planar surface 2, which is a focal plane (Fig. 1 and Fig. 2). The bar code is illuminated by a light source means 3, such as a conventional helium-neon laser, to scan the bar code (col 5, lines 4-5 and lines 10-12). Dolash also discloses a dual detection means 4 that comprises a first optical filter 15 to block reflected excitation light 9 and to pass the fluorescent light 8, which is focused on a first detector 16 by collection optics 17 (col 5, lines 65+). The dual detection means 4 also comprises a second optical filter 18 which blocks fluorescent light 8 and passes the reflected excitation light 9, which is focused on a second detector 19 by a collection optics 20 (col 6, lines 2-5). The fluorescent light signal 10 is compensated by the reflected excitation light signal 11 by electronic or optical circuit means 5 to produce a resultant background-compensated electrical signal 12, which is fed to standard decoder means 6 (col 5, lines 28-34). Such disclosure teaches optically analyzing discrete

Art Unit: 2876

samples on the target plane, wherein the resulting image includes both target sample data and identifying indicia data as part of the image. Dolash also teaches that storing signals in the central processing unit (CPU) in a memory 95 (col 8, lines 12-15). Dolash further teaches that the excitation light source 3 in Fig. 1 can be ultraviolet light (250 nm to 400 nm) and the reflected excitation light 9 and the fluorescent light 8 in the range of 500nm and 620nm can be separately detected by the dual detection means 4 (col 10, lines 52-56). Since the both the background and the fluorescent bar code is illuminated with the same light source, the targets and the identification indicia pattern have an overlapping excitation. And since the reflected excitation light 9 and the fluorescent light 8 are in the same range of wavelength, the targets and the identification indicia pattern have an overlapping emission wavelengths. Therefore, the fluorescent bar code is reflective and fluorescent. Dolash further discloses that the invention utilizes a fluorescent dyes that fluoresce in the far red and near infrared region of the spectrum.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Sheridan et al (US 6,673,315). The teachings of Dolash have been discussed above.

Art Unit: 2876

Dolash fails to teach that the substrate is a slide and a multiwell plate. Dolash also fails to teach plurality of barcode labels.

Sheridan teaches that a biological substrate includes multi-well plates and slides (col 1, lines 24-26). Sheridan also teaches plurality of indicia formed on the substrate.

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Sheridan to the teachings of Dolash in order to elaborate the use of identifying labels to biological substrates that require constant tracking and updating of data. Such modification provides quick access to the particular database or information by simply scanning a bar code label, which increases the capacity of information as well as faster information retrieval/update.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Unno et al (US 6,495,104). The teachings of Dolash have been discussed above.

Dolash fails to teach that the substrate is a microfluidic device.

Unno discloses that a bar code is affixed to or otherwise attached or fabricated onto the microfluidic device's body.

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Unno to the teachings of Dolash in order to elaborate the use of identifying labels to biological substrates that require constant tracking and updating of data. Such modification provides quick access to the particular database or information by simply scanning a bar code label, which increases the capacity of information as well as faster information retrieval/update.

Art Unit: 2876

6. Claims 5, 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Berson (US 5,932,870). The teachings of Dolash have been discussed above.

Dolash fails to teach that a backing material layer such that said fluorescent labeling material is located between said backing material layer and said substrate. Dolash also does not specifically teach a human interpretable mark.

Berson teaches placing a protective transparent laminates over the bar code for abrasion resistance. Bernson also teaches a document that includes a barcode and a human readable text (col 2, lines 20-27)

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Berson to the teachings of Dolash in order to protect the bar code from being damaged, such that a scanner can accurately read the bar code.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Harrop (US 6,598,796). The teachings of Dolash have been discussed above.

Dolash fails to teach that the backing material layer such that said backing material layer is located between the fluorescent labeling material layer and the substrate.

Harrop teaches that a backing material 32 is located between a bar code 36 and a substrate 20 (Fig. 1 and Fig. 2).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Harrop to the teachings of Dolash in order to insure that the backing material reflects less or more light than the barcode to clearly distinguish the difference between the barcode and the background. Such modification ensures

Art Unit: 2876

that a correct barcode scan is obtained to further retrieve or update the information contained with the barcode.

8. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Sauve (US 6,672,510). The teachings of Dolash have been discussed above.

Dolash fails to teach that the bar code is a quantification barcode and the bar code includes a sizing standard.

Sauve teaches that the bar code represents the location of the bottle (col 7, lines 22-25). Specifically, the bar code is related to a volumn (col 7, lines 38-45).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Sauve to the teachings of Dolash in order to measure or obtain data with respect to the quantity of the biological device to keep track of the activities and actions of the biological object.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Chew et al (US 5,576,528). The teachings of Dolash have been discussed above.

Dolash fails to teach changing emission filter.

Chew teaches a filter changing mechanism which functions to individually place each filter in the path of light reflected from the aggregate bar code 18 to the CCD array 29 in order to collect the desired wavelengths from the aggregate bar code (col 6, lines 58-63).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Chew to the teachings of Dolash in order to increased the functionality of the scanner to accommodate various range of spectrum such that the scanner can be utilized in various situations as well as for different types of bar codes.

Art Unit: 2876

10. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Kouchi et al (US 5,541,394). The teachings of Dolash have been discussed above.

Dolash fails to teach that the a quantifying standard generating a quantifying graph by analyzing and quantifying standard and analyzing collected data using the graph. Dolash also fails to teach a sizing standard.

Kouchi discloses thread amount are read from the bar codes and the information collected from the read bar codes are registered to obtain a bar graph (col 14-31).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Kouchi to the teachings of Dolash in order to increase the number of information regarding the biological object, such that the characteristics of the biological object can be uniquely identified in a fast manner.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Mase et al (US 2003/0047616). The teachings of Dolash have been discussed above.

Dolash fails to teach that the label is made from a clear polymer.

Mase teaches that a label is made from a clear polymer (Page 3, Paragraph [0035]).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Mase to the teachings of Dolash in order to reduce the materials or number of layers utilized to create the bar code symbol, which also reduces the cost for the product as well.



Art Unit: 2876

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huston et al., U.S. Patent No. 6,766,953, discloses a tape indicia on clear film media.

Cordery, U.S. Patent Application Publication 2004/0125413, discloses a method for printing high information density machine-readable composite images.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kumiko C. Koyama whose telephone number is 571-272-2394. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kumiko C. Koyama  
May 02, 2005

  
KARL D. FRECH  
PRIMARY EXAMINER